IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: **Liu et al.**	§	
	§	Group Art Unit: **3692**
Serial No. **10/008,731**	§	
	§	Examiner: **Loftus, Ann E.**
Filed: **November 7, 2001**	§	
	§	
For: **Method and Apparatus for**	§	
Identifying Cross-Selling	§	
Opportunities Based on Profitability		
Analysis		

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

37945
PATENT TRADEMARK OFFICE
CUSTOMER NUMBER

APPEAL BRIEF (37 C.F.R. 41.37)

This Appeal Brief is in furtherance of the Notice of Appeal filed in this case on August 1, 2008.

No fees are believed to be necessary. If, however, any fees are required, I authorize the Commissioner to charge these fees which may be required to IBM Corporation Deposit Account No. 09-0457. No extension of time is believed to be necessary. If, however, an extension of time is required, the extension is requested, and I authorize the Commissioner to charge any fees for this extension to IBM Corporation Deposit Account No. 09-0457.

REAL PARTY IN INTEREST

The real party in interest in this appeal is the following party: International Business Machines Corporation of Armonk, New York.

RELATED APPEALS AND INTERFERENCES

With respect to other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal, there are no such appeals or interferences.

STATUS OF CLAIMS

A.   TOTAL NUMBER OF CLAIMS IN APPLICATION

Claims in the application are: 1-30

B.   STATUS OF ALL THE CLAIMS IN APPLICATION

1. Claims canceled: 2-10 and 12-30
2. Claims withdrawn from consideration but not canceled: none
3. Claims pending: 1 and 11
4. Claims allowed: none
5. Claims rejected: 1 and 11
6. Claims objected to: none

C.   CLAIMS ON APPEAL

The claims on appeal are: 1 and 11

STATUS OF AMENDMENTS

No amendment after final rejection was filed for this case. However, Applicants are submitting concurrently herewith an amendment pursuant to 37 C.F.R. 41.33 in order to cancel Claim 21.

SUMMARY OF CLAIMED SUBJECT MATTER

A.   CLAIM 1 - INDEPENDENT

The subject matter of claim 1 is directed to a method in a computing device for identifying cross-selling opportunities (Specification page 11, line 24 – page 12, line 4). The computing device includes a controller, a network interface, a profitability analysis device, a profit level categorization device, a data mining device, a cross-selling opportunities recognition device, and a storage device that are all coupled together using a control/data signal bus (Specification page 31, lines 5-17; Figure 4, elements 410-480). The computing device is used for performing an association analysis for a bank using the bank's plurality of bank products and a plurality of existing banking customers (Specification page 12, lines 5-7; page 25, line 14 – page 26, line 1; page 27, lines 7-16; page 28, lines 3-10). The association analysis includes receiving, by the controller via the network interface, a request for cross-selling opportunities identification, such that the controller initiates retrieval of, for each one of said plurality of existing banking customers from a bank's database, product information about the plurality of bank products, the initiating step being responsive to the receipt of the request and instructs the profitability analysis device to operate on the product information (Specification page 4, lines 7-10; page 31, lines 18-30; page 33, lines 7-10; Figure 4, element 410; Figure 6, element 610). The profitability analysis device analyzes the stored product information to identify strategic ones of the plurality of products to form preferred products, the preferred products being only the strategic ones of the plurality of products (Specification page 28, lines 29-31; page 31, line 31 – page 32, line 1). The profitability analysis device calculates a profit for each one of these preferred products, and based on the profit that was calculated for each one of said preferred products, each one of said preferred products is categorized into one of three levels including a high level of profitability, a medium level of profitability, and a low level of profitability. The low level of profitability indicates either low profitability or negative profitability when each one of the preferred products that is categorized into the low level of profitability is purchased (Specification page 4, lines 10-11; page 29, lines 6-12; page 32, lines 2-8; page 33, lines 9-15; Figure 6, elements 620 and 630).

Each one of the preferred products has an assigned original product code, and for each one of the preferred products, the assigned original product code is transformed by embedding

one of the three levels into the assigned original product code to form a new product code, with the embedded one of the three levels being a level into which each one of the preferred products was categorized (Specification page 4, lines 11-13; page 29, lines 6-12; page 30, lines 18-22; page 33, lines 15-16; Figure 6, element 640). The modified preferred products are then processed to identify associations among the modified preferred products, the processing including performing data mining on the modified preferred products to generate a plurality of association rules based on past behavior of the plurality of banking customers (Specification page 4, lines 14-19; page 33, lines 16-20; Figure 6, element 650). A particular one of the plurality of association rules associates a Visa Gold credit card with a housing loan, with this particular one of the plurality of association rules including a support of 0.22, a confidence of 10.7, and a lift of 13.3. This particular one of the plurality of association rules includes an identification that a Visa Gold credit card is high profitability and an indication that a housing loan is high profitability (Specification page 26, lines 2-18; page 30, lines 3-13).

The cross-selling opportunities recognition device analyzes the plurality of association rules to identify a first subset of the plurality of association rules that indicates the high level of profitability (Specification page 4, lines 19-21; page 29, lines 12-14; page 32, lines 9-12; page 33, lines 21-23; Figure 6, block 660). This first subset of the plurality of association rules includes the particular one of the plurality of association rules, and is used to identify the first ones of the plurality of bank customers to which to target marketing, such that a purchase of one of the preferred products by one of the first ones of the plurality of bank customers results in a high level of profitability occurring (Specification page 29, lines 15-19; page 30, lines 14-17; page 32, lines 12-19; page 33, lines 24-26; Figure 6, element 670).

One or more marketing strategies are generated based on the first subset of the plurality of association rules, and the first ones of said plurality of bank customers are cross-sold to by marketing to the first ones of the plurality of bank customers (Specification page 29, line 26 – page 30, line 2; page 33, lines 26-28; Figure 6, element 680). The cross-selling opportunities recognition device analyzes the plurality of association rules to identify a second subset of the plurality of association rules that indicate a low level of profitability, and is used to identify second ones of the plurality of bank customers to avoid. These second ones of the plurality of bank customers are excluded from a next marketing campaign, such that the first ones of the plurality of bank customers are good targets for cross-selling and the second ones of said

plurality of bank customers are avoided (Specification page 29, lines 15-25; page 30, lines 18-24).

B.   CLAIM 11 – INDEPENDENT

The subject matter of claim 11 is directed to an apparatus/computing device for identifying cross-selling opportunities (Specification page 11, line 24 – page 12, line 4). The computing device includes a controller, a network interface, a profitability analysis device, a profit level categorization device, a data mining device, a cross-selling opportunities recognition device, and a storage device that are all coupled together using a control/data signal bus (Specification page 31, lines 5-17; Figure 4, elements 410-480). The computing device performs an association analysis for a bank using the bank's plurality of bank products and a plurality of existing banking customers (Specification page 12, lines 5-7; page 25, line 14 – page 26, line 1; page 27, lines 7-16; page 28, lines 3-10). The association analysis includes receiving, by the controller via the network interface, a request for cross-selling opportunities identification, such that the controller initiates retrieval of, for each one of said plurality of existing banking customers from a bank's database, product information about the plurality of bank products, the initiating step being responsive to the receipt of the request and instructs the profitability analysis device to operate on the product information (Specification page 4, lines 7-10; page 31, lines 18-30; page 33, lines 7-10; Figure 4, element 410; Figure 6, element 610). The profitability analysis device analyzes the stored product information to identify strategic ones of the plurality of products to form preferred products, the preferred products being only the strategic ones of the plurality of products (Specification page 28, lines 29-31; page 31, line 31 – page 32, line 1). The profitability analysis device calculates a profit for each one of these preferred products, and based on the profit that was calculated for each one of said preferred products, each one of said preferred products is categorized into one of three levels including a high level of profitability, a medium level of profitability, and a low level of profitability. The low level of profitability indicates either low profitability or negative profitability when each one of the preferred products that is categorized into the low level of profitability is purchased (Specification page 4, lines 10-11; page 29, lines 6-12; page 32, lines 2-8; page 33, lines 9-15; Figure 6, elements 620 and 630).

Each one of the preferred products has an assigned original product code, and for each one of the preferred products, the assigned original product code is transformed by a means for

transforming to embed one of the three levels into the assigned original product code to form a new product code, with the embedded one of the three levels being a level into which each one of the preferred products was categorized (Specification page 4, lines 11-13; page 29, lines 6-12; page 30, lines 18-22; page 33, lines 15-16; Figure 6, element 640). The modified preferred products are then processed by a means for processing to identify associations among the modified preferred products, the processing including performing data mining on the modified preferred products to generate a plurality of association rules based on past behavior of the plurality of banking customers (Specification page 4, lines 14-19; page 33, lines 16-20; Figure 6, element 650). A particular one of the plurality of association rules associates a Visa Gold credit card with a housing loan, with this particular one of the plurality of association rules including a support of 0.22, a confidence of 10.7, and a lift of 13.3. This particular one of the plurality of association rules includes an identification that a Visa Gold credit card is high profitability and an indication that a housing loan is high profitability (Specification page 26, lines 2-18; page 30, lines 3-13).

The cross-selling opportunities recognition device analyzes the plurality of association rules to identify a first subset of the plurality of association rules that indicates the high level of profitability (Specification page 4, lines 19-21; page 29, lines 12-14; page 32, lines 9-12; page 33, lines 21-23; Figure 6, block 660). This first subset of the plurality of association rules includes the particular one of the plurality of association rules, and is used to identify the first ones of the plurality of bank customers to which to target marketing, such that a purchase of one of the preferred products by one of the first ones of the plurality of bank customers results in a high level of profitability occurring (Specification page 29, lines 15-19; page 30, lines 14-17; page 32, lines 12-19; page 33, lines 24-26; Figure 6, element 670).

One or more marketing strategies are generated by a means for generating based on the first subset of the plurality of association rules, and the first ones of said plurality of bank customers are cross-sold to by a means for cross-selling in order to market to the first ones of the plurality of bank customers (Specification page 29, line 26 – page 30, line 2; page 33, lines 26-28; Figure 6, element 680). The cross-selling opportunities recognition device analyzes the plurality of association rules to identify a second subset of the plurality of association rules that indicate a low level of profitability, and is used by a means for using to identify second ones of the plurality of bank customers to avoid. These second ones of the plurality of bank customers

are excluded from a next marketing campaign, such that the first ones of the plurality of bank customers are good targets for cross-selling and the second ones of said plurality of bank customers are avoided (Specification page 29, lines 15-25; page 30, lines 18-24).

The means for temporarily storing, categorizing, transforming, storing, processing, generating, cross-selling and using are provided by element 100 of Figure 1, as described in the Specification at page 6, line 17 – page 7, line 26 and page 11, line 17 – page 12, line 4.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection to review on appeal are as follows:

1.   Whether Claims 1 and 11 were properly rejected under 35 U.S.C. § 112, first paragraph as not being adequately supported by the Specification description;

2.   Whether Claims 1 and 11 were properly rejected under 35 U.S.C. § 112, second paragraph as not particularly pointing out and distinctly claiming the subject matter which Appellants regard as their invention; and

3.   Whether Claims 1 and 11 were properly rejected as being obvious over seven (7) different cited references under 35 U.S.C. § 103, including (1) US Patent No. 6272478 by Obata (hereinafter "Obata"), in view of (2) US Patent Application No. 20040064371 by Crapo (hereinafter "Crapo"), in view of (3) US Patent Application No. 20020116237 by Cohen (hereinafter "Cohen"), in view of (4) US Patent No. 6901373 by Chasko (hereinafter "Chasko"), in view of (5)"Bringing Commercial Customers into Focus", published by O'Sullivan, ABA Banking Journal, December 1997, in view of (6) US Patent 5970476 by Fahey (hereinafter "Fahey"), and further in view of (7) US Patent 6324523 by Killeen (hereinafter "Killeen").

ARGUMENT

A.   GROUND OF REJECTION 1 (Claims 1 and 11)

Claims 1 and 11 stand rejected under 35 U.S.C. § 112, first paragraph as not being adequately supported by the Specification description.

A.1.   Claims 1 and 11

In rejecting Claims 1 and 11, the Examiner notes that the claimed step of performing association analysis for only a bank using only the bank's products and customers does not comply with the written description requirement since the Specification describes that the claimed method can be performed by any company or industry. Appellants urge clear error in such rejection, as follows.

As is generally known, the Specification can describe multiple and different things, such as alternative embodiments or broader disclosure than what is claimed, and there is no requirement that the claims exactly match everything described in the Specification. As but one example, a Specification can describe alternative embodiments such as a house constructed of wood and a house constructed of masonry. It is entirely appropriate in such a scenario to recite a claim to a house constructed of wood even though the Specification describes that the house can also be constructed of masonry. Similarly, and as per the present Specification, even though such Specification describes that the method can be performed by any industry, it is perfectly appropriate to claim an invention directed solely to a particular subset of such potential customer base – and in particular to banks and their associated products and customers, which is the preferred embodiment (Specification page 2, line 23 – page 3, line 10). Thus, just because the Specification describes a broader base of potential customers does not mean that the Specification fails to support claims to a subset of such potential customers[1]. Thus, it is urged that Claim 1 (and similarly for Claim 11) has been erroneously rejected under 35 U.S.C. § 112, first paragraph as not being adequately supported by the Specification description.

Still further, the Examiner states that 'preferred products' is not supported by the

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[1] The purpose of the enablement provision is to assure that the inventor provides sufficient information about the claimed invention that a person of skill in the field of the invention can make and use it without undue experimentation, relying on the patent specification and the knowledge in the art, *Scripps Clinic & Research*

Specification. It is urged that the claims recite 'to form preferred products' and thus the term 'preferred products' is merely a particular short-hand nomenclature used in the claims such that the terminology

> 'analyzing, by said profitability analysis device, said stored product information to identify strategic ones of said plurality of products *to form preferred products*, said preferred products being only said strategic ones of said plurality of products, said preferred products being ones of said plurality of products that are purchased by ones of said plurality of banking customers that purchase at least a minimum amount of said plurality of products'

does not have to be repeated in the claim each time this particular class/category of products is recited (as such duplicative, repetitive inclusion would be quite wordy) – it is in effect merely a shorthand term ('preferred products') that is used to actually make the claim more clear by eliminating a need to duplicate/repeat the phraseology of

> 'analyzing, by said profitability analysis device, said stored product information to identify strategic ones of said plurality of products to form preferred products, said preferred products being only said strategic ones of said plurality of products, said preferred products being ones of said plurality of products that are purchased by ones of said plurality of banking customers that purchase at least a minimum amount of said plurality of products'

each time such nomenclature is subsequently referenced in the claim, such as in the subsequent 'calculating', 'categorizing', 'transforming', 'storing' and 'processing' steps. Thus, it is further urged that Claim 1 (and similarly for Claim 11) has been erroneously rejected under 35 U.S.C. § 112, first paragraph as not being adequately supported by the Specification description, as the

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Foundation v. Genetech, Inc., 927 F.2d 1565, 18 USPQ2d 1001, 18 USPQ2d 1896 (Fed. Cir. 1991).

detailed product subset for which the shorthand nomenclature of "preferred products" is used for is adequately described in the Specification.

B.   GROUND OF REJECTION 2 (Claims 1 and 11)

Claims 1 and 11 stand rejected under 35 U.S.C. § 112, second paragraph as not particularly pointing out and distinctly claiming the subject matter which Appellants regard as their invention.

B.1.   Claims 1

In rejecting Claim 1 under 35 U.S.C. § 112, second paragraph, the Examiner states that the Specification refers to a retail bank and the claims recite that the limitations apply to banking but not to retail, yet the Specification addresses customer demographics as though the customers were people and not wholesale businesses, thus implying retail. Appellants urge that the claims are clear, as they specifically recite bank customers. The fact that other types of retail customers are described in the *Specification* does not result in the *claim* being indefinite as Appellants are allowed to recite a subset of their Specification disclosure in the claims, such as their preferred embodiment, and such subset recital does not result in the claim being indefinite.

The Examiner further opines that the terms 'preferred' and 'strategic' are ill-defined, and render the claims indefinite for reasons given above with respect to the 35 U.S.C. § 112, first paragraph. As described above, 'preferred customer' is merely a short-hand nomenclature that is particularly defined in the claim. As to the term 'strategic', such term has a well-known and well-defined meaning to those of ordinary skill in the art, and thus the use of such a well-known and well-defined term does not result in the claim being unclear. Interestingly, an electronic search of the USPTO's patent database indicated that as of January 13, 2008 there were 292 US issued patents with the term 'strategic' in the claims[2].

Thus, Claim 1 has been erroneously rejected under 35 U.S.C. § 112, second paragraph.

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[2] Some of such patents being 7302405, 7296007, 7278290, 7272573, 7266509, 7256510, and 7255051, as evidenced by the list attached hereto as Appendix A.

B.2. Claim 11

Appellants initially show error in the rejection of Claim 11 for similar reasons to those given above with respect to Claim 1.

Further with respect to Claim 11, it is urged that the term 'said computing device' is not vague or indefinite. A person of ordinary skill in the art would recognize that since this is the first occurrence of the use of computing device, the term 'said' is superfluous. Inclusion of a superfluous term does not yield these claims indefinite.

Thus, Claim 11 has been erroneously rejected under 35 U.S.C. § 112, second paragraph.

C.   GROUND OF REJECTION 3 (Claims 1 and 11)

Claims 1 and 11 stand rejected as being obvious over seven (7) different cited references under 35 U.S.C. § 103, including (1) US Patent No. 6272478 by Obata (hereinafter "Obata"), in view of (2) US Patent Application No. 20040064371 by Crapo (hereinafter "Crapo"), in view of (3) US Patent Application No. 20020116237 by Cohen (hereinafter "Cohen"), in view of (4) US Patent No. 6901373 by Chasko (hereinafter "Chasko"), in view of (5)"Bringing Commercial Customers into Focus", published by O'Sullivan, ABA Banking Journal, December 1997, in view of (6) US Patent 5970476 by Fahey (hereinafter "Fahey"), and further in view of (7) US Patent 6324523 by Killeen (hereinafter "Killeen").

C.1. Claims 1 and 11

(I)   Improper Hindsight Analysis

It is error to reconstruct the patentee's claimed invention from the prior art by using the patentee's claims as a "blueprint". When prior art references require selective combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight obtained from the invention itself. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 227 USPQ 543 (Fed. Cir. 1985). The Examiner's use of seven (7) different references in the present obviousness rejection is itself evidence that the Examiner is using Appellants' claims as a blueprint or roadmap to piece together a teaching/suggestion of the claimed invention using such a large number of – and dissimilar – references. Thus, it is urged that a person of ordinary skill in the art would not have been motivated to piecemeal together snippets from a data mining invention, snippets from an on-line registration system, snippets from a customer habit

purchasing system, snippets from a client relationship management system, and snippets from an industrial data acquisition and costing system in a fashion that would result in a teaching/suggestion of the claimed invention as a whole. Therefore, Claim 1 (and similarly for Claim 11) has been erroneously rejected under 35 U.S.C. § 103 using impermissible hindsight analysis.

(II)   Failure to Establish *Prima Facie* Obviousness

Still further, and as will now be shown in detail, the Examiner has failed to properly establish a *prima facie* showing of obviousness with respect to Claim 1 (and similarly for Claim 11), and thus Claim 1 has been erroneously rejected. In rejecting claims under 35 U.S.C. Section 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). Only if that burden is met, does the burden of coming forward with evidence or argument shift to the applicant. *Id.* To establish *prima facie* obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. MPEP 2143.03. *See also, In re Royka*, 490 F.2d 580 (C.C.P.A. 1974). If the examiner fails to establish a *prima facie* case, the rejection is improper and will be overturned. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In the absence of a proper *prima facie* case of obviousness, an applicant who complies with the other statutory requirements is entitled to a patent. *See In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

With respect to Claim 1, it is urged that none of the cited references teach or suggest the claimed feature of "performing, using said computing device, association analysis for only said bank using only said bank's plurality of bank products and only said bank's plurality of existing banking customers". The Examiner relies on *Cohen* to teach analysis being done on sales data. The Examiner further states:

> it is implicit that a bank only keeps data for its own customers. A person of ordinary skill in the art would understand that for a bank to analyze sales data for cross-selling opportunities, they would analyze data for only said bank using only said bank's plurality of bank products and only said bank's plurality of existing banking customers because this is the most complete and the most relevant dataset available to the bank.

Final Office Action dated April 1, 2008.

Appellants' respectfully disagree that the combination of cited references teaches or suggests this feature, or that these features are implicit in the references.

It is not implicit that a bank only keeps data for its own customers. Banks may enter into relationships with other banks, and other businesses, which could permit a bank to have access to data that is kept for customers other than that particular bank's customers. It could be beneficial to a bank and another entity for the bank to have access to data that is kept by that other entity. Therefore, it is not implicit in the references that association analysis is performed for only said bank using only said bank's plurality of banking customers. As a result, nothing teaches or suggests using only said bank's plurality of banking customers.

Furthermore, it is not implicit that association analysis is performed using only said bank's plurality of bank products. It could be informative to a bank to include information about a customer's demographics. Thus, association analysis might be performed using a combination of the bank's bank products as well as customer demographics. In this case, association analysis would be performed using something other than only the bank's bank products. Therefore, it is not implicit in the references that the association analysis be performed using only the bank's bank products. As a result, nothing teaches or suggests using only the bank's bank products.

In addition, it is not implicit that association analysis is performed using only said bank's plurality of existing banking customers. Information about past customers might be found to be useful. Thus, in this example, association analysis might be performed using existing as well as past customers. Therefore, it is not implicit in the references that the association analysis be performed using said bank's plurality of existing banking customers. As a result, nothing teaches or suggests using only existing banking customers.

Still further with respect to Claim 1, it is urged that none of the cited references teach or suggest the claimed feature of "categorizing, *based on said profit that was calculated for each one of said preferred products*, each one of said preferred products *into one of three levels*, which are based on said bank's situation" (emphasis added). In rejecting this aspect of Claim 1, the Examiner states that this claimed feature is taught by Obata since Obata teaches 'highlighting large profit items and not displaying items whose profits fall below a threshold at col. 7, lines 40-52". Appellants urge that this cited passage describes a sorting, displaying and highlighting of *association rules* and such cited passage does not describe a categorization with respect to actual (preferred) *products into three levels*, as claimed. Thus, it is further urged that the Examiner has

failed to properly establish a *prima facie* showing of obviousness with respect to Claim 1 (and similarly for Claim 11).

Still further with respect to Claim 1, such claim recites "for each one of said preferred products: transforming said assigned original product code by embedding one of said three levels into said assigned original product code to form a new product code, said embedded one of said three levels being a level into which each one of said preferred products was categorized". In rejecting this aspect of Claim 1, the Examiner states that Obata teaches three levels of profitability and Fahey teaches product codes, and thus this claimed feature would have been obvious. Appellants urge error, as to the extent Obata teaches three levels, the three levels are with respect to association rules (as previously described), and *are not three levels of profitability*. Thus, the combined teaching of Obata and Fahey does not teach or otherwise suggest the claimed feature of "for each one of said preferred products: transforming said assigned original product code by *embedding one of said three levels* into said assigned original product code to form a new product code, said embedded one of said three levels being a level into which each one of said preferred products was categorized", as expressly recited in Claim 1. Thus, it is further urged that the Examiner has failed to properly establish a prima facie showing of obviousness with respect to Claim 1 (and similarly for Claim 11).

Still further with respect to Claim 1, such claim recites "transforming said original product code into said new product code by concatenating said assigned original product code to form said new product code". In rejecting this aspect of Claim 1, the Examiner states that this claimed feature is obvious 'since profit codes would be stored in a database (as per Fahey col 10 line 13), the database queries can be used to embed or concatenate the data in any way desired'. Appellants urge that such broad generalization that data could be embedded or concatenated *in any way desired* does not meet the burden of proof required by the all limitations rule of establishing a prima facie showing of obviousness as required by the USPTO's own MPEP rules[3]. The Examiner's any-way-desired rational is nothing more than speculation as to what might have been possible. Thus, it is further urged that the Examiner has failed to properly establish a prima facie showing of obviousness with respect to Claim 1 (and similarly for Claim 11).

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[3] To establish prima facie obviousness of a claimed invention, *all of the claim limitations* must be taught

Further with respect to Claim 1, such claim recites "processing said modified preferred products to identify associations among said modified preferred products, said processing including performing data mining on said modified preferred products to generate a plurality of association rules based on past behavior of said plurality of banking customers". In rejecting this aspect of Claim 1, the Examiner asserts that this claimed feature is taught by Cohen at page 1, paragraph 0015 and Figure 2. Appellants show that there, Cohen states:

> [0015] FIG. 1 depicts the cross-selling optimization system of the present invention as generally shown by reference numeral 20. The cross-selling optimization system 20 generates subset association rules 38 based upon raw data 22 that has been pre-processed by a data miner 24. The cross-selling optimization system 20 includes an optimization model 32 (e.g., a linear programming model) to generate the subset association rules 38.

As can be seen, this cited passage describes generation of a subset of association rules based upon raw data that has been pre-processed by a data miner. Using raw data pre-processed by a data minor does not teach or otherwise suggest the claimed feature of *performing data mining on modified preferred products*, as expressly recited in Claim 1 (with such 'modified preferred products' having the requisite characteristics as defined elsewhere in Claim 1, such as having an embedded profitability level). Thus, it is further urged that the Examiner has failed to properly establish a *prima facie* showing of obviousness with respect to Claim 1 (and similarly for Claim 11).

Appellants have thus shown numerous and substantial error in the Examiner's final rejection of Claims 1 and 11, and therefore respectfully requests that the Board reverse the final rejection of all such claims.

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or suggested by the prior art. MPEP 2143.03.

CLAIMS APPENDIX

The text of the claims involved in the appeal are:

1. A method, in a computing device, for identifying cross-selling opportunities for a bank, comprising:

said computing device including a controller, a network interface, a profitability analysis device, a profit level categorization device, a data mining device, a cross-selling opportunities recognition device, and a storage device;

said controller, said network interface, said profitability analysis device, said profit level categorization device, said data mining device, said cross-selling opportunities recognition device, and said storage device coupled together using a control/data signal bus;

performing, using said computing device, association analysis for only said bank using only said bank's plurality of bank products and only said bank's plurality of existing banking customers;

said association analysis not performed for any retail business using any retail customers or retail data related to any type of retail services or retail store;

said association analysis including:

receiving, by said controller via said network interface, a request for cross-selling opportunities identification;

said controller initiating retrieval, for each one of said plurality of existing banking customers from a bank's database, of product information about said plurality of bank products, said initiating responsive to said receipt of said request;

said bank losing money on particular ones of said plurality of products when said particular ones of said plurality of products are purchased by particular ones of said plurality of banking customers;

temporarily storing said product information in said storage device;

instructing, by said controller, said profitability analysis device to operate on said stored product information;

analyzing, by said profitability analysis device, said stored product information to identify strategic ones of said plurality of products to form preferred products, said preferred products being only said strategic ones of said plurality of products, said preferred products being ones of said plurality of products that are purchased by ones of said plurality of banking customers that purchase at least a minimum amount of said plurality of products;

calculating, by said profitability analysis device, a profit for each one of said preferred products, and not calculating profit for ones of said plurality of products not identified as being one of said preferred products;

categorizing, based on said profit that was calculated for each one of said preferred products, each one of said preferred products into one of three levels, which are based on said bank's situation;

said three levels including a high level of profitability, a medium level of profitability, and a low level of profitability;

said low level of profitability indicating either low profitability or negative profitability when each one of said preferred products that is categorized into said low level of profitability is purchased;

each one of said preferred products having an assigned original product code;

for each one of said preferred products: transforming said assigned original product code by embedding one of said three levels into said assigned original product code to form a new product code, said embedded one of said three levels being a level into which each one of said preferred products was categorized;

transforming said original product code into said new product code by concatenating said assigned original product code to form said new product code;

storing each one of said preferred products with said new product code that is associated with said one of said preferred products to form modified preferred products;

processing said modified preferred products to identify associations among said modified preferred products, said processing including performing data mining on said modified preferred products to generate a plurality of association rules based on past behavior of said plurality of banking customers;

a particular one of said plurality of association rules associating a Visa Gold credit card with a housing loan, said particular one of said plurality of association rules including a support of 0.22, a confidence of 10.7, and a lift of 13.3;

said particular one of said plurality of association rules including, embedded within said particular one of said plurality of association rules, an identification that a Visa Gold credit card is high profitability and an indication that a housing loan is high profitability;

wherein said particular one of said plurality of associations rules is: Visa Gold with high profitability associated with house loan with high profitability with support of 0.22, 10.7 as confidence, and 13.3 as lift;

analyzing, by said cross-selling opportunities recognition device, said plurality of association rules to identify a first subset of said plurality of association rules that indicate said

high level of profitability, said first subset of said plurality of association rules including said

particular one of said plurality of association rules;

using said first subset of said plurality of association rules to identify first ones of said

plurality of bank customers to which to target marketing, a purchase of one of said preferred

products by one of said first ones of said plurality of bank customers resulting in said high level

of profitability occurring;

generating one or more marketing strategies based on the first subset of said plurality of

association rules;

cross-selling to said first ones of said plurality of bank customers by marketing to said

first ones of said plurality of bank customers;

analyzing, by said cross-selling opportunities recognition device, said plurality of

association rules to identify a second subset of said plurality of association rules that indicate said

low level of profitability;

using said second subset of said plurality of association rules to identify second ones of

said plurality of bank customers to avoid, marketing not targeted to said second ones of said

plurality of bank customers, a purchase of one of said preferred products by one of said second

ones of said plurality of bank customers resulting in said low level of profitability occurring;

excluding, from a next marketing campaign, said second ones of said plurality of bank

customers; and

wherein said first ones of said plurality of bank customers are good targets for cross-

selling and said second ones of said plurality of bank customers are avoided.

11.   An apparatus for identifying cross-selling opportunities for a bank, comprising:

said computing device including a controller, a network interface, a profitability analysis device, a profit level categorization device, a data mining device, a cross-selling opportunities recognition device, and a storage device;

said controller, said network interface, said profitability analysis device, said profit level categorization device, said data mining device, said cross-selling opportunities recognition device, and said storage device coupled together using a control/data signal bus;

said computing device performing association analysis for only said bank using only said bank's plurality of bank products and only said bank's plurality of existing banking customers;

said association analysis not performed for any retail business using any retail customers or retail data related to any type of retail services or retail store;

said association analysis including:

said controller receiving, via said network interface, a request for cross-selling opportunities identification;

said controller initiating retrieval, for each one of said plurality of existing banking customers from a bank's database, of product information about said plurality of bank products, said initiating responsive to said receipt of said request;

said bank losing money on particular ones of said plurality of products when said particular ones of said plurality of products are purchased by particular ones of said plurality of banking customers;

means for temporarily storing said product information in said storage device;

said controller instructing said profitability analysis device to operate on said stored product information;

said profitability analysis device analyzing said stored product information to identify strategic ones of said plurality of products to form preferred products, said preferred products being only said strategic ones of said plurality of products, said preferred products being ones of said plurality of products that are purchased by ones of said plurality of banking customers that purchase at least a minimum amount of said plurality of products;

said profitability analysis device calculating a profit for each one of said preferred products, and not calculating profit for ones of said plurality of products not identified as being one of said preferred products;

means for categorizing, based on said profit that was calculated for each one of said preferred products, each one of said preferred products into one of three levels, which are based on said bank's situation;

said three levels including a high level of profitability, a medium level of profitability, and a low level of profitability;

said low level of profitability indicating either low profitability or negative profitability when each one of said preferred products that is categorized into said low level of profitability is purchased;

each one of said preferred products having an assigned original product code;

for each one of said preferred products: means for transforming said assigned original product code by embedding one of said three levels into said assigned original product code to form a new product code, said embedded one of said three levels being a level into which each one of said preferred products was categorized;

means for transforming said original product code into said new product code by concatenating said assigned original product code to form said new product code;

means for storing each one of said preferred products with said new product code that is associated with said one of said preferred products to form modified preferred products;

means for processing said modified preferred products to identify associations among said modified preferred products, said processing including performing data mining on said modified preferred products to generate a plurality of association rules based on past behavior of said plurality of banking customers;

a particular one of said plurality of association rules associating a Visa Gold credit card with a housing loan, said particular one of said plurality of association rules including a support of 0.22, a confidence of 10.7, and a lift of 13.3;

said particular one of said plurality of association rules including, embedded within said particular one of said plurality of association rules, an identification that a Visa Gold credit card is high profitability and an indication that a housing loan is high profitability;

wherein said particular one of said plurality of associations rules is: Visa Gold with high profitability associated with house loan with high profitability with support of 0.22, 10.7 as confidence, and 13.3 as lift;

said cross-selling opportunities recognition device analyzing said plurality of association rules to identify a first subset of said plurality of association rules that indicate said high level of profitability, said first subset of said plurality of association rules including said particular one of said plurality of association rules;

using said first subset of said plurality of association rules to identify first ones of said plurality of bank customers to which to target marketing, a purchase of one of said preferred products by one of said first ones of said plurality of bank customers resulting in said high level of profitability occurring;

means for generating one or more marketing strategies based on the first subset of said plurality of association rules;

means for cross-selling to said first ones of said plurality of bank customers by marketing to said first ones of said plurality of bank customers;

said cross-selling opportunities recognition device analyzing said plurality of association rules to identify a second subset of said plurality of association rules that indicate said low level of profitability;

means for using said second subset of said plurality of association rules to identify second ones of said plurality of bank customers to avoid, marketing not targeted to said second ones of said plurality of bank customers, a purchase of one of said preferred products by one of said second ones of said plurality of bank customers resulting in said low level of profitability occurring;

said second ones of said plurality of bank customers excluded from a next marketing campaign; and

wherein said first ones of said plurality of bank customers are good targets for cross-selling and said second ones of said plurality of bank customers are avoided.

EVIDENCE APPENDIX

There are 2 pages of Attachment A that immediately follow this page.

Attachment A

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ACLM/strategic: 292 patents.
Hits 1 through 50 out of 292

Next 50+Hits

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Refine Search | ACLM/strategic

PAT. NO.	Title
1 7,302,405 **T**	Methods for managing and developing sourcing and procurement operations
2 7,296,007 **T**	Real time context learning by software agents
3 7,278,290 **T**	Projectile impact energy and location measurement system
4 7,272,573 **T**	Internet strategic brand weighting factor
5 7,266,509 **T**	System and method for combining interactive game with infomercial
6 7,256,710 **T**	Methods and systems for graphically displaying sources for and natures of aircraft flight control instructions
7 7,255,645 **T**	Equalizing different jackpot games with frequent pays
8 7,255,051 **T**	Template to assist the process of circular sewing embroidery and the like
9 7,254,387 **T**	Management and control of telecommunication services delivery
10 7,251,613 **T**	System and method for generating a multi-layered strategy description including integrated implementation requirements
11 7,221,994 **T**	Operational model for simulating manufacture flow and simulating method thereof
12 7,203,662 **T**	Apparatus, system and method for automatically making operational selling decisions
13 7,197,415 **T**	Laser alignment method and apparatus
14 7,191,106 **T**	Method and system for predicting multi-variable outcomes
15 7,188,007 **T**	Apparatuses and methods for displaying and receiving tactical and strategic flight guidance information
16 7,176,828 **T**	Near-field antenna array with signal processing
17 7,167,824 **T**	Method for generating natural language in computer-based dialog systems
18 7,162,427 **T**	Structure and method of modeling integrated business and information technology

Attachment A

frameworks and architecture in support of a business

19 7,147,266 **T** Hinged assembly locking system

20 7,133,848 **T** Dynamic pricing system

21 7,127,405 **T** System and method for selecting and protecting intellectual property assets

22 7,107,621 **T** Optical illusion wear

23 7,098,809 **T** Display methodology for encoding simultaneous absolute and relative altitude terrain data

24 7,090,156 **T** Destroying planar material

25 7,084,876 **T** Method for presenting a virtual reality environment for an interaction

26 7,079,924 **T** Vision-based obstacle avoidance

27 7,076,416 **T** Method and apparatus for evaluating logic states of design nodes for cycle-based simulation

28 7,058,982 **T** High visibility clothing construction

29 7,039,654 **T** Automated bot development system

30 7,039,575 **T** Methods and systems for the evaluation of power generating facilities

31 7,020,864 **T** Optimized technology mapping techniques for programmable circuits

32 7,004,484 **T** Providing an enhanced ATV riding experience

33 6,993,515 **T** Intelligence system and a method of generating flags for use therein

34 6,990,681 **T** Enhancing broadcast of an event with synthetic scene using a depth map

35 6,988,076 **T** Strategic planning and optimization system

36 6,981,700 **T** Strategic board game

37 6,975,974 **T** Overlay error model, sampling strategy and associated equipment for implementation

38 6,966,927 **T** Hybrid intrastromal corneal ring

39 6,964,417 **T** War game and method of play

40 6,963,854 **T** Target pricing system

41 6,957,577 **T** Down-hole pressure monitoring system

42 6,939,102 **T** Flow guide component with enhanced cooling

43 6,938,844 **T** Zero-clearance cutting systems

44 6,931,365 **T** Industry simulation environment

45 6,915,274 **T** Reverse logistics method for recapturing value of used goods over internet exchange portals

46 6,910,396 **T** Hand-held multi-task device for detecting warfare and strategic traps

47 6,904,950 **T** Method and arrangement for affecting time, temperature and transformation dependent stress relief in sprayform techniques

48 6,901,393 **T** System, method and computer program product for a customer-centric collaborative protocol

49 6,876,991 **T** System, method and computer program product for a collaborative decision platform

50 6,873,261 **T** Early warning near-real-time security system

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RELATED PROCEEDINGS APPENDIX

There are no related proceedings.